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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,742

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Kazuhiro Iida

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DICKSTEIN SHAPIRO LLP
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EXAMINER

RAMDHANIE, BOBBY

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

08/05/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,742	Applicant(s) IIDA, KAZUHIRO	
	Examiner BOBBY RAMDHANIE	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-18 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/04/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. Claims 11-16 are allowed.
2. The following is a statement of reasons for the indication of allowable subject matter: Claims 11-16 are towards a gradient forming device in which the first flow channel is located between the regulation structure and the separation unit and the eluent-liquid inlet unit communicates with said regulation structure via said second flow channel.
3. Claims 17 & 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. Claims 17-18 are towards a microchip (Claim 17) and a mass spectrometric system (Claim 18) which includes the microchip of Claim 17. The prior art of record does not disclose nor suggest the limitations for the gradient forming device as recited in Claims 11-16; the microchip structure as recited in Claim 17; and the mass spectrometric system as recited in Claim 18 which comprises the microchip of Claim 17.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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6. The term "more lyophobic" in claim 5 is a relative term which renders the claim indefinite. The term "more lyophobic" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

7. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what element is regulating the flow. Clarification could be achieved by adding changing line 6 "which" to --wherein said blocking unit --.

8. Claims 12, 17, & 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 12 and 17 do not specify where the specific components are permeating. As presently written, the components could be permeating to the atmosphere. Clarification could be achieved by specifying the permeation between the first and second compositions. Claim 18 is dependent on Claim 17.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by lida et al (US7274016).

11. Applicant's claims are toward an apparatus.

12. The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

13. Regarding Claims 1-10, lida et al discloses the regulation structure, comprising: A). A first flow channel in which a first liquid flows (See Figure 1a Item 101); B). A blocking unit which communicates with said first flow channel and blocks said first liquid (See Figure 1a Item 105; damming portion); and C). A second flow channel introducing a second liquid to said blocking unit, which regulates the flow of said first liquid from said first flow channel to said second flow channel (See Figure 1a Item 102).

14. Additional Disclosures Included: Claim 2: A regulation structure, comprising: A). A first flow channel (See Figure 1a Item 101); B). A second flow channel (See Figure 1a Item 102); C). A communication unit communicating with these flow channels (See Figure 3a & b, valve unit & See Column 8 lines 14-25); and a blocking unit which is formed in said communication unit and blocks flow of said first liquid from said first flow

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channel to said second flow channel, wherein said blocking unit regulates flow of said first liquid from said first flow channel to said second flow channel when there is no liquid in said second flow channel, and allows flow between said first flow channel and said second flow channel when there is a liquid in said second flow channel (See Figure 1a Item 105; damming portion); Claim 3: Wherein said first flow channel and said second flow channel are placed in parallel with each other in the region close to said blocking unit (See Figure 3a Item 130; first channel, Item 134; second channel; Item 132 water absorbing gel; blocking unit); Claim 4: Wherein the first flow channel and said second flow channel are flow- channel grooves formed on a single substrate (See Figure 1a & Column 8 lines 40-45); Claim 5: Wherein said blocking unit has a region more lyophobic to said first liquid than said first flow channel (See Column 2 lines 25-39); Claim 6: Wherein the blocking unit has a surface area per unit volume larger than that of said first flow channel (See Column 7 lines 22-28); Claim 7: Wherein said blocking unit has multiple communicating flow channels formed in a barrier separating said first flow channel and said second flow channel (See Figure 2 Item 121 & 122 & Column 7 lines 54-62); Claim 8: Wherein said blocking unit has a porous material (See Column 7 lines 20-51); Claim 9: Wherein said blocking unit has a single or multiple projections (See Figure 2 Item 121 are interpreted as being projections); and Claim 10: Wherein said first flow channel has a first opening communicating with the external atmosphere, and said second flow channel has a second opening communicating with the external atmosphere (See Figure 6 Items 520 & 560).

Telephonic Inquiries

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to BOBBY RAMDHANIE whose telephone number is (571)270-3240. The examiner can normally be reached on Mon-Fri 8-5 (Alt Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lyle A Alexander/
Primary Examiner, Art Unit 1797

/B. R./